5-2018

Effects of team-skills guidance on accounting students with lone wolf tendencies

Jean Lin SEOW
Singapore Management University, jeanseow@smu.edu.sg

Premila GOWRI-SHANKAR
Nanyang Technological University

DOI: https://doi.org/10.1080/09639284.2018.1476892

Effects of team-skills guidance on accounting students with lone wolf tendencies

Jean Lin Seow, School of Accountancy, Singapore Management University

& Premila Gowri Shankar, Nanyang Business School, Nanyang Technological University

Published in Accounting Education, Volume 27, Issue 3, 4 May 2018, Pages 309-332

https://doi.org/10.1080/09639284.2018.1476892

Abstract

We investigate whether short-term in-class team-skills guidance impacts the perceptions of accounting students with lone wolf tendencies on team work, and peer evaluation systems adopted in team work. We find that students with greater lone wolf tendencies see fewer benefits from engaging in team work and are also less comfortable with peer evaluation systems. In terms of team-skills guidance, we find that students who are exposed to this are more aware of shortcomings in their teams and are more concerned about there being collusion in peer evaluation ratings. In terms of interaction effects, we find that the team-skills guidance explored in our study results in students with greater lone wolf tendencies perceiving one positive benefit from engaging in team work: they find working on the project to be easier than students not exposed to this team-skills guidance. Students with greater lone wolf tendencies who undergo team-skills guidance are also more concerned that friendship and popularity may distort the reliability of peer evaluation. Among students with lesser lone wolf tendencies, we find that team-skills guidance results in the perception of fewer benefits from engaging in team work on a number of dimensions when compared to students not exposed to team-skills guidance.

Keywords

Team work, team-skills guidance, lone wolves, peer evaluations

Funding

Jean Lin Seow gratefully acknowledges financial support from the Singapore Ministry of Education Academic Research Fund Tier 1 [grant number C206-SMU-004].

Introduction

Business schools have increasingly recognized that students need to experience the challenges of working in teams to better prepare them for the ability to work effectively in teams in the workplace (Gibbs, Jacques, Jenkins, & Ruse, 1994; Harvey, Moon, Grail, & Bower, 1997; Jackling & De Lange, 2009). The ability to work as a team is also promoted as a necessary skill for a successful career in the accounting profession (AICPA, 2010; Aquila & Grissom, 2014; Evans, Burritt, & Guthrie, 2010; Hancock et al., 2009; IAESB, 2014).

Prior research suggests that working in a team results in the development of soft skills such as social, communication and interpersonal skills (Johnson, Johnson, & Smith, 1998; Slavin, 1996).[1] Indeed, accounting students report positive experiences from undertaking team work (Bourner, Hughes, & Bourner, 2001; Dyball, Reid, Ross, & Schoch, 2007). However, a more recent study (Shankar & Seow, 2010) suggests that students with greater lone wolf tendencies perceive fewer benefits from engaging in team work. Lone wolves are individuals who prefer to work alone due to lack of trust, patience and confidence with others (Barr, Dixon, & Gassenheimer, 2005). As the ability to work together in teams is highly valued in the accounting profession, students with greater lone wolf tendencies may be disadvantaged. We thus investigate whether team-skills guidance can provide some aid to these lone wolves.

Salas, Stagl, and Burke (2004, 48) state that 'History has repeatedly illustrated that effective team work is not an automatic result of just bringing team members together to accomplish interdependent tasks.' Indeed, while team-based learning approaches have gained popularity in higher education, with students required to work together on projects that require their commitment to a common purpose and goal, a dynamic and synergistic melding of complementary skills and competencies in the collective team talent pool, and the mutual accountability of team members for the quality of the final product (Katzenbach & Smith, 1999), there has been regrettably less effort made to provide students with the necessary support and systematic guidance they may need to embrace and effectively perform these team-based assignments. In this study, we explore whether short-term team-skills guidance incorporated within an accounting module in an undergraduate program can enable students with greater lone wolf tendencies to be more effective team players. Specifically, we examine three aspects of team effectiveness: the attitudinal, behavioral and subjective performance dimensions of team effectiveness (Robertson & Colquitt, 2005; Wang, Waldman, & Zhang, 2014). Moreover, given that a peer evaluation system may both motivate lone wolves to be more effective team players (Barr et al., 2005) as well as demotivate them through a stereotype threat effect (Steele & Aronson, 1995), we also capture how participants' views on the peer evaluation system vary as a function of their lone wolf tendencies and team-skills guidance.

Ninety-nine students in their first year of study in an accounting degree program participated in this study. Students were involved in a team project constituting 15% of the overall course grade, spanning two-thirds of one semester (about 8 weeks), and requiring coordination and team work to execute successfully.

In our experiment, we manipulate team-skills guidance by involving approximately half the students in in-class team-skills discussions facilitated by the course instructor.[2] Using a questionnaire survey methodology, we capture students' lone wolf tendencies as well as their perceptions of team work and their views on peer evaluations on project work.

Contribution

This study makes a significant contribution to the accounting education literature by investigating an issue that has received relatively little attention in the accounting education literature, namely, exploring the use of team-skills guidance as a mechanism for encouraging individuals with lone wolf tendencies to be more receptive to

team work. It is important to consider this issue as the ability to work effectively in teams is a highly sought-after skill in the accounting profession.

The next section presents the literature relating to team work, followed by a description of the research instrument and method of administration. This is followed by the results of this study. We conclude with implications for educators and suggestions for future research in the final section.

Literature review and research question

Lone wolves are individuals who prefer to work alone rather than as part of a team (Barr et al., 2005) and have little patience, trust and confidence in others (Dixon, Gassenheimer, & Barr, 2003). Prior research provides mixed evidence regarding individuals' lone wolf tendencies and team performance. Some studies show that the presence of lone wolves negatively affects team performance (Barr et al., 2005; Briggs, Jaramillo, & Weeks, 2012; Mulki, Jaramillo, & Marshall, 2007) while others posit that team performance may be enhanced because individuals with lone wolf tendencies have high job involvement, drive and energy (Griffeth, Gaertner, & Sager, 1999; Hochheiser, 1987). A more recent study by Shankar and Seow (2010) that uses a questionnaire survey methodology to capture undergraduate accounting students' perceptions of team work on a multitude of dimensions shows that accounting students with greater lone wolf tendencies perceive fewer benefits from engaging in team work. As team work is integral to being successful in the accounting profession (AICPA, 2010; Evans et al., 2010; Hancock et al., 2009; IAESB, 2014), we examine whether guiding students in team skills will result in students with greater lone wolf tendencies perceiving more benefits from engaging in team work and becoming more effective team players.

Prior research suggests that team effectiveness can be categorized into four broad dimensions: attitudinal outcomes (for example, team satisfaction, commitment and team identification), behavioral processes (for example, team cooperation, helping and team cohesion), subjective performance (performance ratings by team members themselves or external higher-level evaluators), and objective measures (actual outcomes) (Robertson & Colquitt, 2005; Wang et al., 2014). In this study, we examine three of the above four dimensions of team effectiveness, namely the attitudinal, behavioral and subjective performance outcomes. While we examine outcomes in the form of marks awarded to the team project submission, this is still a subjective performance measure; the inherent subjectivity in the instructor's grading process means there is still the absence of an external objective measure.

To induce lone wolves to be more effective team players, Barr et al. (2005) suggest that a peer evaluation system be included as part of the mode of assessment in team projects. As the overall grade received by a team member would be contingent on the rating given by their team members (peer evaluation), this would motivate lone wolves to participate actively in team work despite their own preference to work alone. Indeed, Maiden and Perry (2011) show that free-riding, which poses another threat to effective team work, can be mitigated by incorporating such forms of peer evaluation. However, whether a peer evaluation system induces lone wolves to be effective team players depends on whether they hold positive perceptions about the benefits of the peer evaluation system. Steele and Aronson (1995) and Steele (1997) find that a member of a team can experience a stereotype threat even if he/she does not believe the stereotype to be true; if the team member is exposed to a context where he/she believes he/she is seen as belonging to a stereotype viewed negatively by the rest of the team (for example, being a 'loner' or not being a team player), that alone can produce negative attitudes and behaviors. These negative attitudes and behaviors can in turn negatively affect the team member's performance if such a stereotype threat is present at the time of the performance (Aronson et al., 1999; Steele, 1997; Steele & Aronson, 1995). Hence, we examine whether or not guiding students in team skills results in students with greater lone wolf tendencies developing different perceptions about the peer evaluation system in use.

Assigning students to project teams does not guarantee they will learn to interact and operate effectively as a team; the absence of any team-skills training or guidance may very well result in dysfunctional teams which can have a negative effect on student team work experiences, student learning and developing of desired skills, and may also have a detrimental effect on student attitudes toward working in a team in future (Chapman & Van Auken, 2001).

Indeed, Bowen (1998) finds that participation in student project teams can create frustration and dislike of team work rather than foster an appreciation of the many benefits that working in a team can bring. Bolton (1999) also finds that many students are deeply frustrated by instructors' attempts for them to learn through team assignments, despite the benefits that can entail from working in teams; Bolton (1999) posits that part of this frustration may stem from the absence of support and guidance on how to work effectively as a team, since many instructors concentrate on content and leave students to learn to work together with fellow team mates through a process of trial and error. However, the development of team-skills ability is a process that requires facilitation by a party external to the team (for example, the instructor, in the role of a team 'coach'), and merely setting a requirement for a group of students to work together does not turn them into a team (Bowen, 1998; Porter, 1993; Urch Druskat & Kayes, 2000).

Prior research provides mixed evidence with regard to the benefits of team-skills guidance. Ellis, Bell, Ployhart, Hollenbeck, and Ilgen (2005) show that teams receiving lecture-based generic team work training had higher levels of cognitive and skills-based outcome relative to the control group. Rapp and Mathieu (2007) show that individuals trained in team work skills exhibit higher levels of team work knowledge and better team work behavior than the untrained participants. On the other hand, Bacon, Stewart, and Silver (1999) show that team-skills training is not associated with either MBA students' best or work team experiences, while Chen, Donahue, and Klimoski (2004) show that generic team-skills training has a positive impact on both cognitive and skill-based outcomes but does not improve team work related attitudes.

Students with lesser lone wolf tendencies are likely to be more receptive to team work than students with greater lone wolf tendencies (Barr et al., 2005). Hence, they may be expected to develop more positive perceptions about team work and the peer evaluation system with team-skills guidance. However, given the mixed findings on the effects of team-skills guidance, we do not make any directional predictions on the effects of team-skills guidance, either on the perceptions of students with lesser lone wolf tendencies, on team work or on the peer evaluation system. With regard to students with greater lone wolf tendencies, we also do not make directional predictions on the effects of team-skills guidance on their perceptions of team work and the peer evaluation system for the following reasons. Recall that lone wolves are naturally averse to team work. Thus, students with greater lone wolf tendencies may be less receptive to team-skills guidance and therefore not reap the benefits of team-skills guidance.[3]

The team-skills guidance may also sensitize the lone wolves to, and raise their awareness of, the negative stereotypes about them held by other team members. On the other hand, team-skills guidance may educate lone wolves on the value of team work, provide insights on team dynamics, and help them develop strategies for coping with potential negative aspects of working together on a team project (Chapman & Van Auken, 2001) thereby leading these lone wolves to perceive some benefits from engaging in team work.

Our study thus explores two research questions: whether short-term, in-class, team-skills guidance affects (1) the perceptions of accounting students with lone wolf tendencies on team work; and (2) their views on team project peer evaluation systems used.

Research Method

Team project

The team project in this study is undertaken by first-year students in an AACSB[4] accredited accounting degree program at a university in Singapore. Students are randomly allocated to teams of 5 or 6 students and are required to undertake a team project. The tasks involved in this project require students to work closely as a team and to interact extensively with each other, leverage on each other's strengths and have mutual accountability.[5] The team project constitutes 15% of the overall course grade and spans a period of 8 out of the 13-week duration of the course (i.e. approximately two-thirds of one semester). All students in the team are awarded the same marks for the project unless members of the team report any unequal contribution to the instructor.

Each team is tasked with selecting a company listed on the stock exchange and submitting a written report that identifies the company's key revenue-generating operations and revenue recognition practices, discussing the appropriateness of the choice of revenue recognition practices and the subjectivity in the reported revenues.

The peer evaluation system adopted by the instructor for this team project requires the cover page of the written report submitted to include the percentage contribution for each team member to the project, with the sum of team member contribution totaling 100%. Hence, each of the teams submits their project report with a cover page that indicates the members of the team and the percentage contributed by each of the members. The team arrives at the percentage contributed by each of the members based on team discussion.

Participants

One hundred and two students in their first year of study in an accounting degree program participated in this study. The experiment was conducted during the first semester of the academic year, in the first accounting course read by students. Twenty student teams participated in this study, each comprising 5 or 6 members. The average age of participants is 20 years, and all participants were instructed by the same course instructor[6] . Three participants were omitted due to incomplete responses, resulting in 99 usable responses comprising 52 females (52.5%) and 47 males (47.5%). Forty-eight of these 99 participants were in the team-skills guidance treatment group (representing two classes randomly selected from four classes under the same course instructor)[7] (see Table 1).

Table 1. Number of participants

	Lone wolf tendencies (Greater)	Lone wolf tendencies (Lesser)	Total number
Team-skills guidance	22	26	48
No team-skills guidance	24	27	51
Total number	46	53	99

Independent variables and covariate

Our study employs two independent variables. Team-skills guidance is a between-subjects variable manipulated at two levels (guidance versus no guidance) while the second independent variable, the lone wolf tendency (LWT), is a measured variable (lesser versus greater on a median split).[8] We run a 2 × 2 ANCOVA with gender as a covariate. We incorporate gender as a covariate because prior studies show that there can be significant differences in the attitudes, experiences and behaviors of males and females in a team (Kaenzig, Hyatt, & Anderson, 2007; Karakowsky, McBey, & Miller, 2004; Lee & Farh, 2004; Monk-Turner & Payne, 2005).

Research instrument and administration

In week 1 of the course, prior to the course instructor forming students into teams and commencing the class discussion, students' lone wolf tendencies were captured in-class using the lone wolf scale from Barr et al. (2005). Students' lone wolf tendencies are measured through their responses on the extent to which they agree with 7 statements relating to their work preferences, beliefs and behaviors on a 7-point Likert scale (1: strongly disagree to 7: strongly agree) such as 'Given the choice, I would rather work alone than with others; I prefer solitude over social interactions with acquaintances; working with others is a hassle; I have little tolerance when others make mistakes.' As this lone wolf scale is a validated instrument, we use the average of the seven items as a measure of each student's lone wolf tendencies, and then use a median split to arrive at students with lesser and greater lone wolf tendencies. The mean for the lone wolf measure is 2.90 with a standard deviation of 0.85, and ranging from 1.14 to 5.0. The reliability estimate of this seven-item scale is 0.826.

The research questionnaire for eliciting student perceptions of team work consists of two parts. Part I (comprising questions on their feelings about working on the project) is administered in-class in Week 3 of the course, shortly after the release of the team project topic, but before students have completed more than initial discussions on the project requirements. Part II is administered in-class, in Week 11 of the course, two weeks after the project submission deadline, but before the project marks were released by the instructor. This two-week 'cooling off' period was adopted to avoid any halo effects, and was a measure also adopted in Dyball et al. (2007). Hence, we capture student perceptions about their feelings about working on the project twice: once at the beginning of the project, and again after the end of the project, while the remaining measures are all captured only once after the project completion. Students are assured of both confidentiality in their responses, and the fact that their responses will have no effect on the marks/grade awarded for their project. The project grades were only released to students after all the responses had been collected.

Part I of the questionnaire consists of questions derived from the questionnaire used by Dyball et al. (2007) to measure student feelings about working on the project as they commence work on the project. Part II of the questionnaire has three sections. Section A consists of questions measuring both quantitative and qualitative issues relating to working in teams, derived from the questionnaire used by Dyball et al. (2007). Section B of the research instrument captures student perceptions of peer evaluation/assessment systems while Section C captures some demographic information.

Dependent variables

Experience of working on the team project

The dependent variable is students' responses to the following six dimensions relating to working on the project on a 5-point Likert scale, namely, enjoyable (1: 'not enjoyable' to 5: 'enjoyable'), stimulating (1: 'dull' to 5: 'stimulating'), perceived level of difficulty of the project (1: 'difficult' to 5: 'easy'), satisfying (1: 'frustrating' to 5: 'satisfying'), beneficial (1: 'not beneficial' to 5: 'beneficial') and the learning experience (1: 'a poor learning experience' to 5: 'a good learning experience').

Feelings about the project

We capture students' feeling about the project at the beginning as well as at the end of the project on a 5-point Likert scale relating to six dimensions, namely, knowledge (1: 'ignorant about topic studied' to 5: 'knowledgeable about the topic studied'), confidence (1; 'lacking in confidence' to 5: 'confident'), flexibility in thought (1: 'less

flexible in thought' to 5: 'more flexible in thought'), independence (1: 'dependent' to 5: 'independent'), competence (1: 'incompetent' to 5: 'competent') and enthusiasm (1 : 'unenthusiastic' to 5 : 'enthusiastic').

Perceptions of how well the team worked together

We examine how well the teams worked together on the team project on a 5-point Likert scale (1: 'poorly' to 5: 'very well').

Contribution of team members

Students' rating of their individual contribution to the project is captured on an 11-point scale (1: 'hardly any effort' to 11: 'very high level of effort'). We also captured student's average rating of peers in the group by computing the sum of the ratings awarded by the student to the other group members divided by the number of other group members.

Outcome of the team project

Students' rating of the outcome of the team project is captured on a 5-point scale (1: 'very poorly' to 5: 'very highly'). All of the above questions commencing from Section 3.5.1 were derived from the questionnaire used by Dyball et al. (2007).

We also capture the outcome of the project in terms of the grade/marks awarded to the project by the instructor. As discussed earlier, each of the teams submits their project report with a cover page that indicates the members of the team and the percentage contributed by each of the members. As all teams indicated equal contribution by their respective members towards the project, the instructor awarded the same marks to all members of a given team. Hence, the marks awarded to each of the teams was the same as the marks awarded to the individual members of the team.

Attitudes to peer evaluation system generally

On a 5-point Likert scale with '1' representing 'Strongly Disagree', '5' representing 'Strongly Agree' and '3' representing 'Neutral', we measure students' perceptions relating to peer evaluations through the following statements, namely, students should evaluate each other's contribution; I am comfortable evaluating others' performance; peer evaluation is more hurtful than helpful; peer evaluation helps instructors see what's going on; peers can evaluate/assess fairly; automatic granting of the same grade to all is unfair; I have yet to encounter an evaluation system fair to all; friendship and popularity distort peer evaluation; students may collude to award higher ratings to each other and peer evaluation accurately reflects my performance. The statements were derived from Pfaff and Huddleston (2003), Gatfield (1999), Cederblom and Lounsbury (1980) and Lejk and Wyvill (2002).

Attitudes to peer evaluation system used for the team project

We measured on a 5-point Likert scale with '1' representing 'Strongly Disagree', '5' representing 'Strongly Agree' students' attitudes to the peer evaluation system used for the team project via the following five

statements: It is an appropriate peer evaluation/assessment process; it is a fair way to divide marks' grades will be a fair reflection of students' efforts; this system of peer assessment will generate too much competition between team members; and, overall, how satisfied are you with the peer evaluation/assessment process used? The statements were derived from Gatfield (1999) and Love (1981).

Team-skills guidance method

Prichard, Bizo, and Stratford (2006) note that some educational institutions introduce separate generic team-skills training courses to help students develop team working skills, and to support student collaborative learning. However, given that team-skills development is experiential in nature (Kolb, 1984; Ramsey & Couch, 1994), providing team-skills guidance as part of (within the context of) an existing course module which requires students to work in teams would arguably make such guidance more salient, and better enable students to apply what they learn from team-skills guidance to the process of working as a team on the course team project (Bolton, 1999). This is supported by Moreland, Argote, and Krishnan (1998) and Moreland and Myaskovsky (2000), who find that teams perform their tasks better if task training is provided concurrently with the task process, and in the context of the task process itself, rather than as a separate module. Hence, in our study, team-skills guidance is incorporated within the accounting course.

While there are many ways in which team-skills guidance can be designed, some general principles include helping students to develop skills in planning, role clarification, collaborative problem-solving, communication, and conflict resolution (Buller & Bell, 1986; Woodman & Sherwood, 1980), skills which are valued by the accounting profession (Bryant & Albring, 2006). Given that Shankar and Seow (2010) find that lone wolves perceive fewer benefits from engaging in team work and experience less team commitment, in our study, we also emphasize the following specific aspects of team work in the team-skills guidance: the importance and benefits of working in teams, characteristics of successful teams, potential problems arising from team interactions and ways to resolve them.

Team-skills guidance in the experimental group took place in two phases as part of the accounting course read by students.

In the first phase, students participated in a discussion on team dynamics facilitated by the instructor in week 1 of the course, when student teams had been formed and students had gained initial impressions of each other, but before they had entered into discussions on the team project (the team project topic was released at the start of week 2 of the course). This was a deliberate design choice so as to expose lone wolves to the benefits of working in teams before they commenced work on the actual project. During this session, the instructor facilitated a brief discussion on the importance and benefits of working in teams, both in terms of learning together as a team, as well as in the workplace, to help students appreciate how the team project was designed to help them develop the necessary skills to function as effective team members. In their newly formed project teams of 5 or 6 members, students were given some time to discuss what they believe to be characteristics of successful teams, and to identify some critical success factors of good team work. Students were asked to also consider potential problems they may face when working in teams, and to think of ways of how to resolve these identified problems.[9]

The instructor then called on each team to share an example of either a characteristic of successful teams or a potential problem (and a suggested way of resolving the problem). At the end of the session, the instructor highlighted some key takeaways from the discussion, namely the benefits of working in teams, some characteristics of successful teams, and the importance of allocating different roles (some of which can be combined) to different team members, for example, to include team leader, encourager, recorder, checker and

devil's advocate roles to members of the team. This exercise took approximately 40 minutes of the regular in-class time of two hours.

The second phase of the team-skills guidance took place in week 6 of the course, 3 weeks prior to the submission of the team project. This timing was so chosen as student teams are likely to face greater team conflicts during the project completion phase and a discussion on effective team work in a lead up to the final stages of the team project might better enable students to work more effectively as a team. The session began with the instructor enquiring on the progress of the team project, followed by a re-capitulation of some of the more important team dynamics discussed in week 1 of the course, with specific reference to what students in that class had shared in class in that week; in particular, some important characteristics of successful teams[10] as well as a brief discussion on some of the potential problems that teams had brought up in week 1 of the course.[11] The instructor then facilitated a discussion on conflict management and ways of resolving potential problems. The key takeaways from the discussion included the need to integrate team members' views and the need for team members to be willing to accommodate, compromise and exercise some 'give and take' for a win-win solution for all team members. At the end of the session, the instructor shared with the students that some problems the student teams may have encountered (may be encountering) while working on the team project are likely to occur when they join the workforce due to different work styles and attitudes, tight deadlines and different personalities. However, students were encouraged to see these challenges as opportunities to develop project management skills, people management skills and conflict management skills. Approximately 25 minutes of the regular 2-hour class time was devoted to this exercise. The course instructor incorporated the team-skills guidance into the class discussions as a general class discussion, so that it did not appear as if the team-skills guidance classes were taking additional time to discuss a course- or project-related issue that was not discussed with the control classes. Classes that did not have team-skills guidance were dismissed earlier, as is the norm in weeks 1 and 6 whenever the instructor runs this course.[12]

Results and discussion

Perceptions of team work

We present the ANCOVA results with team-skills guidance and lone wolf tendencies as the independent variables and gender as a covariate on students' perceptions of team work on three dimensions of team effectiveness: attitudinal (experience of working on the team project, and feelings about the team project), behavioral (perceptions of how well the team worked together) and subjective performance outcomes (contribution of team members, and the outcome of the team project) as the dependent variables. The descriptive statistics (means adjusted for the effects of covariate(s)) are presented in the appendix (Tables A1–A6).

Experience of working on the team project

We find a significant main effect of lone wolf tendency on two of the dimensions; students with greater lone wolf tendencies find the project less beneficial (mean greater LWT= 3.6 and mean lesser LWT = 3.9, $p = .046$) and a poorer learning experience (mean greater LWT = 3.6 and mean lesser LWT = 3.9, $p = .016$) compared to students with lesser lone wolf tendencies (see Table 2, and appendix, Table A1). This is consistent with Shankar and Seow (2010). There was no significant main effect of team-skills guidance at the 5% level.

Table 2. ANCOVA results of the effect of team-skills guidance and lone wolf tendencies (gender as covariate) on accounting students' experience of working on the team project.

Experience of working on the team project	Lone wolf *F* (*p*-value)	Team-skills guidance *F* (*p*-value)	Lone wolf × team-skills guidance *F* (*p*-value)
Not enjoyable (1) to enjoyable (5)	0.909 (0.343)	0.174 (0.678)	1.582 (0.212)
Dull (1) to stimulating (5)	0.371 (0.544)	3.263 (0.074)	0.068 (0.795)
Difficult (1) to easy (5)	0.537 (0.465)	0.779 (0.380)	6.587 (0.012*)
Frustrating (1) to satisfying (5)	1.399 (0.240)	1.087 (0.300)	1.873 (0.174)
Not beneficial (1) to beneficial (5)	4.107 (0.046*)	0.225 (0.636)	0.159 (0.691)
Poor (1) to good (5) learning experience	5.979 (0.016*)	0.733 (0.394)	1.111 (0.295)

Notes: We manipulate team-skills guidance by involving approximately half the students in in-class team-skills discussions facilitated by the course instructor. The lone wolf tendency is a measured variable (lesser and greater). Participants rate their experience of working on the project on a number of dimensions on a scale of 1–5.
*Significant at 5% level of confidence (2-tailed).

Our results show a significant 2-way interaction of team-skills guidance and lone wolf tendencies for only one dimension, namely, perceived level of difficulty ($p = .012$) (see Table 2). Among students with greater lone wolf tendencies, students in the team-skills guidance group report working on the project to be easier than students in the control group (mean greater LWT with team guidance = 3.2 and mean greater LWT without team guidance = 2.7, $p = .021$), while there is no significant difference in responses among students with lesser lone wolf tendencies ($p = .238$) (see appendix, Table A1).

Feelings about the project

With regard to student feelings at the beginning of the project, we find no significant difference between experimental groups at the 5% level on all six dimensions. We next run an ANCOVA including students' feelings at the beginning of the project as a covariate in addition to gender.[13] We find a significant main effect of lone wolf tendency on two dimensions; specifically, we find students with greater lone wolf tendencies feel less flexible in thought (mean greater LWT = 3.6 and mean lesser LWT = 3.9, $p = .010$) and more incompetent (mean greater LWT = 3.4 and mean lesser LWT = 3.7, $p = .009$) compared to students with lesser lone wolf tendencies (see Table 3 and appendix, Table A2). This is consistent with Shankar and Seow (2010). We find no significant main effect of team-skills guidance at the 5% level.

Table 3. ANCOVA results of the effect of team-skills guidance and lone wolf tendencies (gender and feelings at the beginning of the project as covariates) on accounting students' feelings at the end of the project

	Lone wolf *F* (*p*-value)	Team-skills guidance *F* (*p*-value)	Lone wolf × team-skills guidance *F* (*p*-value)
Ignorant about topic studied (1) to Knowledgeable about topic studied (5)	3.917 (0.051)	3.511 (0.064)	0.298 (0.587)
Lacking in confidence (1) to Confident (5)	14.421 (0.000**)	1.832 (0.179)	9.102 (0.003**)
Less flexible in thought (1) to More flexible in thought (5)	6.832 (0.010*)	0.565 (0.454)	0.954 (0.331)
Dependent (1) to independent (5)	3.746 (0.056)	0.806 (0.372)	6.578 (0.012*)
Incompetent (1) to Competent (5)	7.081 (0.009*)	1.207 (0.275)	3.816 (0.054)
Unenthusiastic (1) to Enthusiastic (5)	3.177 (0.078)	0.733 (0.394)	1.753 (0.189)

Notes: We manipulate team-skills guidance by involving approximately half the students in in-class team-skills discussions facilitated by the course instructor. The lone wolf tendency is a measured variable (lesser and greater). Participants rate their feelings at the end of the project on a number of dimensions on a scale of 1–5.
*Significant at 5% level of confidence (2-tailed).
**Significant at 1% level of confidence (2-tailed).

We find a significant 2-way interaction between team-skills guidance and lone wolf tendencies for only two dimensions, namely, confidence ($p = .003$) and independence ($p = .012$) (see Table 3). Among students with lesser lone wolf tendencies, we find that students in the team-skills guidance group feel less confident (mean lesser LWT with team guidance = 3.5 and mean lesser LWT without team guidance = 4.0, $p = .001$) and more dependent (mean lesser LWT with team guidance = 3.5 and mean lesser LWT without team guidance = 4.0, $p = .021$) than students in the control group (see appendix, Table A2). There is no significant difference in perceptions among students with greater lone wolf tendencies at the 5% level.

Perceptions of how well the team worked together

We examine how well the teams worked together on the team project. We find a main effect of team-skills guidance; students in the team-skills guidance group report that their team worked together less well than the control group (mean with team guidance = 3.6 and mean without team guidance = 3.9, $p = .023$) (see Table 4, Panel A and appendix, Table A3). No significant 2-way interactions between team-skills guidance and lone wolf tendencies are found for students' perceptions of how their team worked together. It is possible that the in-class discussions on team dynamics in the team-skills guidance group may have alerted students in this group to be more expectant and demanding of their team members, leading to the perception of less cohesion among team members.

Table 4. ANCOVA results of the effect of team-skills guidance and lone wolf tendencies (with gender as covariate) on accounting students' perceptions of how well the team worked together (Panel A) and contribution of team members (Panel B)

	Lone wolf *F* (*p*-value)	Team-skills guidance *F* (*p*-value)	Lone wolf × Team-skills guidance *F* (*p*-value)
Panel A			
Perceptions of how well the team worked together	0.202 (0.654)	5.306 (0.023**)	0.242 (0.624)
Panel B			
Individual contribution	1.533 (0.219)	2.618 (0.109)	7.028 (0.009**)
Peer contribution	3.623 (0.060)	2.707 (0.103)	1.990 (0.162)

Notes: We manipulate team-skills guidance by involving approximately half the students in in-class team-skills discussions facilitated by the course instructor. The lone wolf tendency is a measured variable (lesser and greater). Participants rate their feelings at the end of the project on a number of dimensions on a scale of 1-5.
*Significant at 5% level of confidence (2-tailed).
**Significant at 1% level of confidence (2-tailed).

Contribution of team members

We find no significant main effect of lone wolf tendencies or team-skills guidance on students' rating of their individual contribution to the project. However, we find a significant 2-way interaction between team-skills guidance and lone wolf tendencies on students' rating of their individual contribution to the project (p = .009) (see Table 4, Panel B). Among students with greater lone wolf tendencies, there is no significant effect of team-skills guidance on their perceptions (p = .372). However, among students with lesser lone wolf tendencies, students receiving team-skills guidance rate their individual contribution lower than others who do not (mean lesser LWT with team guidance = 7.2 and mean lesser LWT without team guidance = 8.3, p = .005) (see appendix, Table A3). Students' average rating of peers[14] in their team does not vary between experimental groups at the 5% level (see Table 4, Panel B). This suggests that for students in the team-skills guidance group, the characteristics of a 'dream team' are more salient, and as a result, these students are more critical of their own contributions to the team project.

Outcome of team project

We find a significant main effect of the lone wolf tendency alone; specifically, students with greater lone wolf tendencies rate the outcome of their project more poorly than those with lesser lone wolf tendencies (mean greater LWT = 3.5 and mean lesser LWT = 3.7, p = .025) (see Table 5, Panel A and appendix, Table A4).

Table 5. ANCOVA results of the effect of team-skills guidance and lone wolf tendencies (with gender as covariate) on outcome of the team project (Panel A) and marks awarded to the project (Panel B).

	Lone wolf *F* (*p*-value)	Team-skills guidance *F* (*p*-value)	Lone wolf × Team-skills guidance *F* (*p*-value)
Panel A			
Perceived outcome of the project	5.216 (0.025**)	1.913 (0.170)	0.057 (0.812)
Panel B			
Marks awarded to the project	2.331 (0.130)	15.775 (0.000**)	0.143 (0.706)

Notes: We manipulate team-skills guidance by involving approximately half the students in in-class team-skills discussions facilitated by the course instructor. The lone wolf tendency is a measured variable (lesser and greater). Participants rate their feelings at the end of the project on a number of dimensions on a scale of 1-5.
*Significant at 5% level of confidence (2-tailed).
**Significant at 1% level of confidence (2-tailed).

We find no significant 2-way interaction between team-skills guidance and lone wolf tendencies for students' rating of the outcome of the team project at the 5% level (see Table 5, Panel A).

With regard to the marks awarded to the project, we only find a significant main effect for team-skills guidance; specifically, we find that students in the team-skills guidance group performed more poorly when compared to the control group (mean with team guidance = 63.9 and mean without team guidance = 70.7, p = .000) (see Table 5, Panel B and appendix, Table A6). No significant 2-way interactions between team-skills guidance and lone wolf tendencies were found at the 5% level (see Table 5, Panel B). Given that the marks are awarded to the project on a team basis, we re-ran the analyses on a team basis (that is, for the 20 teams). For each team, based on our earlier categorisation of individuals with higher and lower lone wolf tendency based on a median split, we computed the proportion of members with higher lone wolf tendencies. Groups with greater than 40% of the team members with higher lone wolf tendencies were categorized as teams with a higher lone wolf tendency. Consistent with our earlier analyses on an individual basis, we only find a marginally significant main effect for team-skills guidance; specifically, we find that students in the team-skills guidance group performed more poorly when compared to the control group (mean with team guidance = 63.3 and mean without team guidance = 71.1, respectively, p = .087). There was no significant 2-way interaction between team-skills guidance and lone wolf tendencies at the 5% level. Again, expectations among students in the team-skills guidance group appear to be higher than in the control group, suggesting that one effect of such guidance results in students having more exacting standards, and becoming more severe critics of their own performance/outputs.

Views on the peer evaluation system

We present below the ANCOVA results with team-skills guidance and lone wolf tendencies as independent variables with gender as a covariate and students' views on various dimensions of the peer evaluation system used in team work as the dependent variables.

Attitudes to peer evaluation systems generally

The descriptive statistics (means adjusted for the effects of covariate(s)) are presented in appendix (Table A5). We find a significant main effect for the lone wolf tendency on a number of dimensions (see Table 6). Students with lesser lone wolf tendencies agree to a greater extent than students with greater lone wolf tendencies that in team work, students have to evaluate others' contributions (mean lesser LWT = 3.7 and mean greater LWT = 3.4, p = .040), feel comfortable evaluating others' performance (mean lesser LWT= 3.7 and mean greater LWT = 3.1, p = .001), and believe peers can evaluate fairly (mean lesser LWT = 3.3 and mean greater LWT = 2.7, p = .000). In addition, we find a significant main effect of team-skills guidance on one dimension; students receiving team-skills guidance are more concerned that there may be collusion among team members to award each other higher peer evaluation ratings when compared to students in the control group (mean with team guidance = 3.6 and mean without team guidance = 3.2, p = .021). None of the other main effects are significant at the 5% level of confidence.

Table 6. ANCOVA results of the effect of team-skills guidance and lone wolf tendencies (with gender as covariate) on accounting students' attitudes to peer evaluation

	Lone wolf *F* (*p*-value)	Team-skills guidance *F* (*p*-value)	Lone wolf × Team-skills guidance *F* (*p*-value)
Peer evaluation systems generally			
Students should evaluate each other's contributions	4.333 (0.040*)	0.509 (0.477)	0.000 (0.992)
I am comfortable evaluating others' performance	12.232 (0.001**)	0.022 (0.881)	2.073 (0.153)
Peer evaluation is more hurtful than helpful	1.798 (0.183)	0.008 (0.928)	0.032 (0.859)
Peer evaluation helps instructors see what's going on	3.111 (0.081)	0.223 (0.638)	3.155 (0.079)
Peers can evaluate/assess fairly	13.649 (0.000**)	0.008 (0.930)	0.991 (0.322)
Automatic granting of the same grade to all is unfair	0.627 (0.430)	3.718 (0.057)	0.076 (0.784)
I have yet to encounter an evaluation system fair to all	1.618 (0.207)	0.431 (0.513)	0.048 (0.827)
Friendship and popularity distort peer evaluation	2.235 (0.138)	3.589 (0.061)	3.988 (0.049*)
Students may collude to award higher ratings to each other	0.115 (0.736)	5.500 (0.021*)	0.204 (0.652)
Peer evaluation accurately reflects my performance	6.939 (0.010*)	0.045 (0.832)	5.123 (0.026*)

Notes: We manipulate team-skills guidance by involving approximately half the students in in-class team-skills discussions facilitated by the course instructor. The lone wolf tendency is a measured variable (lesser and greater). Participants rate their attitudes to peer evaluation on a 5-point Likert scale with '1' representing 'Strongly Disagree', '5' representing 'Strongly Agree', and '3' Representing 'Neutral'.
*Significant at 5% level of confidence (2-tailed).
**Significant at 1% level of confidence (2-tailed).

We find a significant 2-way interaction between team-skills guidance and lone wolf tendencies on two dimensions relating to peer evaluations. First, students believe that friendship and popularity distort the accuracy of peer evaluations (p = .049) (see Table 6). Among students with greater lone wolf tendencies, students receiving team-skills guidance agree to a greater extent that friendship and popularity distort peer evaluations when compared to students in the control group (mean greater LWT with team guidance = 4.2 and mean greater LWT without team

guidance = 3.4, p = .009). Among students with lesser lone wolf tendencies, there is no significant effect of team-skills guidance on these perceptions (p = .944). Second, students assess that peer evaluations accurately reflect their performance (p = .026).[15] There is no significant effect of team-skills guidance on students with greater or lesser lone wolf tendencies at the 5% level. However, in the group receiving team-skills guidance, students with lesser lone wolf tendencies agree to a greater extent that peer evaluations accurately reflect their performance when compared to students with greater lone wolf tendencies (mean lesser LWT with team guidance = 3.3 and mean greater LWT with team guidance = 2.6, p = .001), while there is no significant effect of the lone wolf tendency in the control group (p = .822).

Hence, team-skills guidance appears to raise student awareness that potential collusion among team members can distort the reported percentage contribution of each team member on the cover page of the project report submitted. Lone wolves may be particularly susceptible to sensitization through team-skills guidance to some of the shortcomings of a peer evaluation system; the in-class discussions may heighten their belief (whether real or imaginary) that other team members view them as being loners or not team players, and negatively skew the peer evaluations other team members will give him/her. The effect of such perceived negative stereotyping (Steele, 1997) and perceived ostracizing by other members of the team on the psyche of the student with greater lone wolf tendencies could also explain why we find that students with greater lone wolf tendencies are more concerned that friendship and popularity can distort peer evaluations, and have greater doubt than students with lesser lone wolf tendencies whether peer evaluations can accurately reflect their performance.

Attitudes to peer evaluation system used for the team project

The descriptive statistics (means adjusted for the effects of covariate(s)) are presented in appendix (Table A6). In relation to the specific peer evaluation system used for the team project in this study, we find no main effects of team-skills guidance or lone wolf tendencies, at the 5% level, on students' assessment that the peer evaluation process used for the team project is appropriate, a fair way to divide marks, grades will be a fair reflection of the students' efforts, and will generate too much competition between team members. However, we find a significant main effect of team-skills guidance on one specific dimension: students receiving team-skills guidance are less satisfied with the team evaluation/assessment process used in the project when compared to students in the control group (mean with team guidance = 3.0 and mean without team guidance = 3.4, p = .002) (see Table 7 and appendix, Table A6). We find no significant 2-way interactions between team-skills guidance and lone wolf tendencies at the 5% level relating to the 5 statements. Given our earlier findings that students in the team-skills guidance group perceive that there is a greater likelihood of collusion in arriving at these peer evaluations, it is perhaps not surprising that these students also express less satisfaction with the overall team project peer evaluation system.

Table 7. ANCOVA results of the effect of team-skills guidance and lone wolf tendencies (with gender as covariate) on accounting students' attitudes to peer evaluation used for team project

	Lone wolf *F* (*p*-value)	Team-skills guidance *F* (*p*-value)	Lone wolf × Team-skills guidance *F* (*p*-value)
It is an appropriate peer evaluation/assessment process	0.278 (0.599)	0.292 (0.591)	0.088 (0.767)
It is a fair way to divide marks	1.821 (0.180)	0.609 (0.437)	1.559 (0.215)
Grades will be a fair reflection of students' efforts	1.820 (0.180)	0.062 (0.804)	0.865 (0.355)
This system of peer assessment will generate too much competition between team members	0.472 (0.494)	0.083 (0.774)	2.180 (0.143)
Overall, how satisfied are you with the peer evaluation/ assessment process used?	0.002 (0.966)	9.728 (0.002**)	0.383 (0.537)

**Significant at 1% level of confidence (2-tailed).

Conclusion

This study contributes to the literature in tertiary education by examining the impact of short-term in-class team-skills guidance on the perceptions of accounting students with lone wolf tendencies on team work and their views on the peer evaluation system used for team work. Our findings suggest that team-skills guidance results in one specific attitudinal outcome benefit to students with greater lone wolf tendencies; namely, students with greater lone wolf tendencies find working on the team project to be easier. This is encouraging. However, we also find that with regard to peer evaluation, these same students have concerns that friendship and popularity may distort the accuracy of peer evaluations. Among students with lesser lone wolf tendencies, certain unintended effects of team-skills guidance emerge with regard to attitudinal and subjective performance outcomes. Students receiving team-skills guidance feel less confident and more dependent than those in the control group, and also rate their contribution to the project lower than those in the control group. We also find that team-skills guidance leads students to assess their group to have worked together less well than students in the control group. This suggests that the team-skills guidance may have made participants more aware of the characteristics of a well-functioning team and led to their being more critical in the evaluation of their own team.

With regard to the peer evaluation system used in this study, team-skills guidance increases awareness that students may collude to award higher peer ratings, leading them to be less satisfied with the peer evaluation system. This result was heightened in the case of students with greater lone wolf tendencies.

Limitations and future research

The first limitation involves the operationalization of the team-skills guidance. In this study, given that lone wolves are naturally averse to team work (Barr et al., 2005; Dixon et al., 2003), we chose to operationalize team-skills guidance in the form of two short-term, in-class discussions (as opposed to having one extended session) so as not to alienate students with lone wolf tendencies. However, given that the form of team-skills guidance explored in our study did not induce positive perceptions regarding team work among students with lesser as well as greater lone wolf tendencies, our findings suggest that accounting educators may need to consider other forms/means of team-skills guidance that involve more instructor involvement and intervention. Further, given our findings, instructors may also consider whether team-skills guidance should be tailored to students based on their lone wolf tendencies; one particular form of team-skills guidance may be beneficial for students with greater lone wolf tendencies but may be less so for students with lesser lone wolf tendencies. If students with greater lone

wolf tendencies either perceive that they are, or are in reality, viewed by other members of the team with the lens of a negative stereotype (Steele, 1997; Steele & Aronson, 1995), then any form of team-skills guidance adopted would need to be carefully operationalized. Instructors need to tread carefully so as not to exacerbate the stereotype threat among students with greater lone wolf tendencies (their perception of being stereotyped, and the negative effect this can have on their perceptions and subsequent performance), as well as among students with lesser lone wolf tendencies (their openness and willingness to embrace the lone wolves in their midst, and not ostracizing them). Future research can investigate whether such an approach to providing team-skills guidance would be more efficacious.

Second, our results may be in part a function of the duration of the team project in this study (8 weeks in a semester spanning 13 weeks), which may have been too short a period of time for randomly assigned student teams to familiarize themselves with each other, learn from, and about, each other, and learn how to effectively manage conflicts and disagreements that arise during team discussions. Porter and Lilly (1996) note that while conflicts can be effectively managed and resolved in long-term teams, short-term teams (with duration of existence 15 weeks or less) may suffer from lack of time for conflict resolution to lead to improved team processes and improved team performance. Urch Druskat and Kayes (2000) also note that even though working through conflicts is a key and necessary stage of team development, in short-term teams, particularly those with a tight deadline, team-skills guidance may merely sensitize students to how teams and team members should interact, may lead to more disharmony and confusion in a team, and result in reduced efficiency and inferior performance by the team as a whole. Future research can explore this phenomenon in greater depth, and examine the effects of team-skills guidance in a long-term team setting or in a multi-project team setting, keeping the project team composition intact for each project to enable students to benefit from a learning curve (Prichard et al., 2006). Indeed, Tuckman and Jensen (1977) suggest that team work and team building is a dynamic process that changes over the various stages of team formation, such as forming, storming, norming, performing and adjourning. Due to the short duration of this study's team project, the project team may not have progressed beyond the forming and storming stages. Future research can explore whether the effect of team guidance activities varies as a function of team development stage. Moreover, Belbin's (1993) work on team roles suggests that individuals have a preference for as many as nine different team roles (e.g. resource investigator, monitor evaluator, specialist, etc.) either individually or in multiples. Future research can examine whether lone wolves have a preference for a specific role, and whether these preferences change as a function of the team-skills guidance provided.

Third, the peer evaluation system adopted by the instructor for the team project in this study may also have had some bearing on our results. Recall that students were required to agree on the percentage contribution of each team member, and this information was disclosed on the cover page of the project report submitted. This basically required students to come to a consensus (as opposed to having students privately submit their peer evaluation forms directly to an instructor), and may have led to conflict situations in the team. This may also have caused students in the team-skills guidance group to be more aware of the shortcomings in the dynamics of their teams. Future research can thus also examine the effects of different methods of peer evaluation on student projects.

Fourth, given the essentially collectivist culture in Singapore (Chew & Putti, 1995; Hofstede, 1980), our findings may not be generalizable to students hailing from more individualist cultures. Further, varying student team sizes (five or six students in our study) may highlight different team dynamics to that found in our study. Future research can investigate the effects of the additional dimensions of culture and team composition on team dynamics.

Finally, in our study, given the nature of our task, we were unable to capture participants' objective measure of performance. Future studies could design a task that could include such objective measures such as the time taken

to complete the task or having a task with either a correct or incorrect response, and examine the effects of team-skills guidance and lone wolf tendencies on the performance of such tasks.

Notes

1. See Apostolou, Dorminey, Hassell, and Watson (2013); Apostolou, Hassell, Rebele, and Watson (2010), and Watson, Apostolou, Hassell, and Webber (2007) for a review of the accounting education literature including cooperative/ team-based learning.
2. All participants in our study are instructed by the same course instructor.
3. As lone wolves are naturally averse to team work, our design incorporates two short duration in-class team-skills guidance sessions as opposed to one extended session which may have had the effect of alienating the lone wolves in the class and leaving them in a state of limbo without providing any closure on the matter.
4. The Association to Advance Collegiate Schools of Business
5. Prior research suggests that social loafing/free-riding increases as team size increases (Albanese & Van Fleet, 1985). Although the team size for the current project involved either 5 or 6 members, the instructor for the course designed the task demands for the project such that it requires the contribution of 5 or 6 members to ensure the success of the project, thereby minimizing any social loafing tendencies. A team with a lesser number of students would have found it very challenging to accomplish the given task requirements within the stipulated time frame.
6. Neither of the researchers was the course instructor, and the researchers were not involved in the design of the project and the peer evaluation system used. As this was the student participants' first semester of study in the university, we were not able to capture their GPA scores. There was only one international student among the participants and the results are unchanged with the omission of this participant.
7. As it was the first year of study, students were randomly assigned by the administrative system to the classes under the same instructor. We randomly assigned two of these groups to team skills training and two to the control condition. Hence, both team and condition assignments were random. As the purpose of the team project was to enable teams to independently research and analyze the issues, the instructor did not provide explicit guidance to any of the teams. In instances where students needed clarification relating to certain project requirements, the instructor shared his response with all students. Hence, no team was privy to additional information that would enable it to perform better on the team project in either the team-skills guidance classes or the control classes.
8. We re-ran the analysis by using a different categorization of the lone wolf tendency. Specifically, we split the sample into 3 groups and compared the two extreme groups of individuals with lone wolf tendencies (31 individuals with lesser lone wolf tendencies and 33 with greater lone wolf tendencies). The results are directionally consistent with what we observe with our full sample.
9. To enable the instructor to facilitate the discussion, we provided the instructor with some guidance on the characteristics of successful teams (e.g. clear sense of direction and vision; priorities and deadlines clearly set; team work divided fairly between members; a spirit of give-and-take; active listening; being responsive to others' ideas etc.), some potential problems and possible ways of resolving these problems (e.g. problem of free riders, minimize problem by clarifying and specifying, up front, role expectations and deliverables from each member and rotating roles such as leader/recorder/devil's advocate/encourager at each meeting; problem of dominant team member to be resolved by rotating roles; problem of team conflicts to be resolved by discussing problems in a friendly way to arrive at a win-win solution, putting self in other's shoes to see what it's like from their point of view, etc.).
10. Some characteristics of successful teams as identified by students include: clear communication, active discussion and contribution from members.
11. Some potential problems identified by students in Week 1 include: team members lacking in ideas (with the proposed solutions of brainstorming and doing more research before discussions), team members facing difficulty in arranging common meeting times due to varying class schedules (with the proposed solutions of identifying a common time slot each week and fixing this up-front as project discussion time), and free riding (resolved by setting expectations up front).
12. The researchers were informed by the instructor that no student in either the experimental or the control group expressed any concerns about the different duration of classes in these weeks.
13. The results are based on the responses of 96 participants.

14. The average rating is 7.47 which is significantly above the mid-point of 6 ($p = 0.000$), suggesting greater than moderate contribution from other team members.
15. When we analyze the 2-way interaction between team-skills guidance and lone wolf tendencies at each level of lone wolf tendency, we find that among students with greater and lesser lone wolf tendencies, there is no significant effect of team-skills guidance on their perceptions ($p = 0.121$ and 0.104, respectively).

Acknowledgements

We are indebted to Chong Eng Heng for assisting with the recruitment of study participants. We thank anonymous reviewers and conference participants at the 2014 American Accounting Association Annual Meeting for their comments on earlier versions of this paper.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

Albanese, R., & Van Fleet, D. D. (1985). Rational behavior in groups: The free riding tendency. Academy of Management Review, 10(2), 244–255. doi: 10.5465/amr.1985.4278118

American Institute of Certified Public Accountants (AICPA). (2010). Core competency framework and educational competency assessment. Retrieved from http://www.aicpa-eca.org

Apostolou, B., Dorminey, J. W., Hassell, J. M., & Watson, S. F. (2013). Accounting education literature review (2010-2012). Journal of Accounting Education, 31, 107–161. doi: 10.1016/j.jaccedu.2013.03.001

Apostolou, B., Hassell, J. M., Rebele, J. E., & Watson, S. F. (2010). Accounting education literature review (2006-2009). Journal of Accounting Education, 28, 145–197. doi: 10.1016/j.jaccedu.2011.08.001

Aquila, A., & Grissom, A. (2014). Can a lone wolf survive in a team-oriented firm? Accounting Today, 28(11), 40.

Aronson, J., Lustina, M. J., Good, C., Keough, K., Steele, C. M., & Brown, J. (1999). When White men can't do math: Necessary and sufficient factors in stereotype threat. Journal of Experimental Social Psychology, 35, 29–46. doi: 10.1006/jesp.1998.1371

Bacon, D. R., Stewart, K. A., & Silver, W. S. (1999). Lessons from best and worst student team experiences: How a teacher can make the difference. Journal of Management Education, 23, 467–488. doi: 10.1177/105256299902300503

Barr, T. F., Dixon, A. L., & Gassenheimer, J. B. (2005). Exploring the 'lone wolf' phenomenon in student teams. Journal of Marketing Education, 27(1), 81–90. doi: 10.1177/

Belbin, R. M. (1993). Team roles at work: A strategy for human resource management. Oxford: Butterworth Heinemann.

Bolton, M. K. (1999). The role of coaching in student teams: A 'just-in-time' approach to learning. Journal of Management Education, 23(3), 233–250. doi: 10.1177/105256299902300302

Bourner, J., Hughes, M., & Bourner, T. (2001). First-year undergraduate experiences of group project work. Assessment and Evaluation in Higher Education, 26(1), 19–39. doi: 10.1080/02602930020022264

Bowen, D. D. (1998). Team frames: The multiple realities of the team. Journal of Management Education, 22(1), 95–103. doi: 10.1177/105256299802200108

Briggs, E., Jaramillo, F., & Weeks, W. A. (2012). The influences of ethical climate and organization identity comparisons of salespeople and their job performance. Journal of Personal Selling & Sales Management, 32(4), 421–436. doi: 10.2753/PSS0885-3134320402

Bryant, S. M., & Albring, S. M. (2006). Effective team building: Guidance for accounting educators. Issues in Accounting Education, 21(3), 241–265. doi: 10.2308/iace.2006.21.3.241

Buller, P. F., & Bell, C. H. (1986). Effects of team building and goal setting on productivity: A field experiment. Academy of Management Journal, 29, 305–328.

Cederblom, D., & Lounsbury, J. W. (1980). An investigation of user acceptance of peer evaluations. Personnel Psychology, 33, 567–579. doi: 10.1111/j.1744-6570.1980.tb00484.x

Chapman, K. J., & Van Auken, S. (2001). Creating positive group project experiences: An examination of the role of the instructor on students' perceptions of group projects. Journal of Marketing Education, 23(2), 117–127. doi: 10.1177/0273475301232005

Chen, G., Donahue, L. M., & Klimoski, R. J. (2004). Training undergraduates to work in organizational teams. Academy of Management Learning and Education, 3(1), 27–40. doi: 10.5465/amle.2004.12436817

Chew, I. K. H., & Putti, J. (1995). Relationship on work-related values of Singaporean and Japanese managers in Singapore. Human Relations, 48(10), 1149–1170. doi: 10.1177/001872679504801003

Dixon, A. L., Gassenheimer, J. B., & Barr, T. F. (2003). Identifying the lone wolf: A team perspective. Journal of Personal Selling and Sales Management, XXIII(3), 205–209.

Dyball, M., Reid, A., Ross, P., & Schoch, H. (2007). Evaluating assessed group-work in a second-year management accounting subject. Accounting Education: An International Journal, 16(2), 145–162. doi: 10.1080/09639280701234385

Ellis, P. J. A., Bell, B., Ployhart, R. E., Hollenbeck, J. R., & Ilgen, D. R. (2005). An evaluation of generic teamwork skill training with action teams: Effects on cognitive and skill-based outcomes. Personnel Psychology, 58, 641–672. doi: 10.1111/j.1744-6570.2005.00617.x

Evans, E., Burritt, R., & Guthrie, J. (2010). Accounting education at a crossroad in 2010. Sydney: Centre for Accounting, Governance, and Sustainability, University of South Australia, Institute of Chartered Accountants in Australia (ICAA).

Gatfield, T. (1999). Examining student satisfaction with group projects and peer assessment. Assessment & Evaluation in Higher Education, 24(4), 365–377. doi: 10.1080/0260293990240401[Taylor & Francis Online]

Gibbs, G., Jacques, D., Jenkins, A., & Ruse, C. (1994). Developing students' transferable skills. Oxford: The Oxford Centre for Staff Development.

Griffeth, R. W., Gaertner, S., & Sager, J. (1999). Taxonomic model of withdrawal behaviors: The adaptive response model. Human Resource Management Review, 9 (4), 577–590. doi: 10.1016/S1053-4822(99)00034-0

Hancock, P., Howieson, B., Kavanagh, M., Kent, J., Tempone, I., & Segal, N. (2009). Accounting for the future: More than numbers. Strawberry Hills: Australian Learning and Teaching Council. Retrieved from http://www.altc.edu.au

Harvey, L., Moon, S., Grail, V., & Bower, R. (1997). Graduates' work: Organisational change and students' attributes. Birmingham: Centre for Research into Quality.

Hochheiser, R. (1987). How to work for a jerk. New York: Vantage books.

Hofstede, G. (1980). Culture's consequences: International differences in work-related values. Beverly Hills, CA: Sage.

Internal Accounting Education Standard Board (IAESB). (2014). International Education Standard 3, Initial Professional Development – Professional Skills (Revised). Retrieved from http://www.ifac.org/sites/default/files/publications/files/IAESB-IES-3-28Revised29_0.pdf

Jackling, B., & De Lange, P. (2009). Do accounting graduates' skills meet the expectations of employers? A matter of convergence or divergence. Accounting Education: An International Journal, 18, 369–385. doi: 10.1080/09639280902719341

Johnson, D. W., Johnson, R. T., & Smith, K. A. (1998). Cooperative learning returns to college: What evidence is there that it works? Change: The Magazine of Higher Learning, 30, 26–35. doi: 10.1080/00091389809602629

Kaenzig, R., Hyatt, E., & Anderson, S. (2007). Gender differences in college of business educational experiences. Journal of Education for Business, 83, 95–100. doi: 10.3200/JOEB.83.2.95-100

Karakowsky, L., McBey, K., & Miller, D. L. (2004). Gender, perceived competence, and power displays: Examining verbal interruptions in a group context. Small Group Research, 35, 407–438. doi: 10.1177/1046496404263728

Katzenbach, J., & Smith, K. (1999). The wisdom of teams: Creating the high performance organization. New York, NY: HarperCollins.

Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Englewood Cliffs, NJ: Prentice Hall.

Lee, C., & Farh, J. L. (2004). Joint effects of group efficacy and gender diversity on group cohesion and performance. Applied Psychology: An International Review, 53(1), 136–154. doi: 10.1111/j.1464-0597.2004.00164.x

Lejk, M., & Wyvill, M. (2002). Peer assessment of contributions to group project: Student attitudes to holistic and category-based approaches. Assessment & Evaluation in Higher Education, 27(6), 569–577. doi: 10.1080/0260293022000020327

Love, K. G. (1981). Comparison of peer assessment methods: Reliability, validity, friendship bias, and user reaction. Journal of Applied Psychology, 66(4), 451–457. doi: 10.1037/0021-9010.66.4.451

Maiden, B., & Perry, B. (2011). Dealing with free-riders in assessed group work: Results from a study at a UK university. Assessment & Evaluation in Higher Education, 36(4), 451–464. doi: 10.1080/02602930903429302

Monk-Turner, E., & Payne, B. (2005). Addressing issues in group work in the classroom. Journal of Criminal Justice Education, 16(1), 166–179. doi: 10.1080/1051125042000333532

Moreland, R. L., Argote, L., & Krishnan, R. (1998). Training people to work in groups. In R. S. Tindale, L. Heath, J. Edwards, E. J. Prosavac, F. B. Bryant, Y. Suarez-Balcazar, E. Henderson-King, & J. Myers (Eds.), Theory and research on small groups (pp. 37–60). New York: Plenum Press.

Moreland, R., & Myaskovsky, L. (2000). Exploring the performance benefits of group training: Transactive memory or improved communication? Organisational Behavior and Human Decision Processes, 82, 117–133. doi: 10.1006/obhd.2000.2891

Mulki, J. P., Jaramillo, F., & Marshall, G. W. (2007). Lone wolf tendencies and salesperson performance. Journal of Personal Selling & Sales Management, XXVII(1), 25–38. doi: 10.2753/PSS0885-3134270102

Pfaff, E., & Huddleston, P. (2003). Does it matter if I hate teamwork? What impacts student attitudes toward teamwork. Journal of Marketing Education, 25(1), 37–45. doi: 10.1177/0273475302250571

Porter, G. (1993). Are we teaching people not to work in teams: Reflections on team based assignments in the college classroom. CSWT Anniversary Proceedings, Denton, TX: University of North Texas, pp. 373–379.

Porter, T. W., & Lilly, B. S. (1996). The effects of conflict, trust and task commitment on project team performance. The International Journal of Conflict Management, 7(4), 361–376. doi: 10.1108/eb022787

Prichard, J. S., Bizo, L. A., & Stratford, R. J. (2006). The educational impact of team-skills training: Preparing students to work in groups. British Journal of Educational Psychology, 76, 119–140. doi: 10.1348/000709904X24564

Ramsey, V., & Couch, P. (1994). Beyond self-directed learning: A partnership model of teaching and learning. Journal of Management Education, 18, 139–161. doi: 10.1177/105256299401800202

Rapp, T. L., & Mathieu, J. E. (2007). Evaluating an individually self-administered generic team work skills training program across time and levels. Small Group Research, 38(4), 532–555. doi: 10.1177/1046496407300479

Robertson, Q. M., & Colquitt, J. A. (2005). Shared and configural justice: A social network model of justice in teams. Academy of Management Review, 30(3), 595–607. doi: 10.5465/amr.2005.17293715

Salas, E., Stagl, K. C., & Burke, C. S. (2004). 25 years of team effectiveness in organizations. Research themes and emerging trends. In C. L. Robertson (Ed.), International review of industrial and organizational psychology, 19 (pp. 47–92). New York: Wiley.

Shankar, P. G., & Seow, J. L. (2010). The association between accounting students' lone wolf tendencies and their perceptions, preferences and performance outcomes in team projects. Journal of Accounting Education, 28, 75–84. doi: 10.1016/j.jaccedu.2011.03.004

Slavin, R. (1996). Research on co-operative learning and achievement: What we know, what we need to know. Contemporary Educational Psychology, 21, 43–69. doi: 10.1006/ceps.1996.0004

Steele, C. M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. American Psychologist, 52, 613–629. doi: 10.1037/0003-066X.52.6.613

Steele, C. K., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. Journal of Personality and Social Psychology, 69(5), 797–811. doi: 10.1037/0022-3514.69.5.797

Tuckman, B. W., & Jensen, M. A. C. (1977). Stages of small-group development revisited. Group & Organization Studies, 2(4), 419–427. doi: 10.1177/105960117700200404

Urch Druskat, V., & Kayes, D. C. (2000). Learning versus performance in short-term project teams. Small Group Research, 31, 328–353. doi: 10.1177/104649640003100304

Wang, D., Waldman, D. A., & Zhang, Z. (2014). A meta-analysis of shared leadership and team effectiveness. Journal of Applied Psychology, 99(2), 181–198. doi: 10.1037/a0034531

Watson, S. F., Apostolou, B., Hassell, J. M., & Webber, S. A. (2007). Accounting education literature review (2003-2005). Journal of Accounting Education, 25, 1–58. doi: 10.1016/j.jaccedu.2007.01.001

Woodman, R. W., & Sherwood, J. J. (1980). The role of team development in organizational effectiveness: A critical review. Psychological Bulletin, 88(1), 166–186. doi: 10.1037/0033-2909.88.1.166

Appendix: Descriptive statistics (means adjusted for the effects of covariate(s))

Table A1. Means of Table 2: Experience on the team project (Gender as covariate)

		Team-skills Guidance	No team-skills guidance	*Total*
Not enjoyable (1) to enjoyable (5)	Lesser LWT	3.6	3.8	*3.7*
	Greater LWT	3.6	3.5	*3.5*
	Total	*3.6*	*3.6*	
Dull (1) to stimulating (5)	Lesser LWT	3.3	3.6	*3.4*
	Greater LWT	3.2	3.5	*3.3*
	Total	*3.2*	*3.5*	
Difficult (1) to easy (5)	Lesser LWT	2.9	3.2	*3.1*
	Greater LWT	3.2[c]	2.7[c]	*3.0*
	Total	*3.1*	*3.0*	
Frustrating (1) to satisfying (5)	Lesser LWT	3.2	3.6	*3.4*
	Greater LWT	3.2	3.2	*3.2*
	Total	*3.2*	*3.4*	
Not beneficial (1) to beneficial (5)	Lesser LWT	3.9	4.0	*3.9*[a]
	Greater LWT	3.6	3.6	*3.6*[a]
	Total	*3.7*	*3.8*	
Poor (1) to good (5) learning experience	Lesser LWT	3.8	4.1	*3.9*[b]
	Greater LWT	3.6	3.6	*3.6*[b]
	Total	*3.7*	*3.8*	

Note: *Significant effects.*
[a] $p = .046$ main effect.
[b] $p = .016$ main effect.
[c] $p = .021$ *post hoc* (simple main effect).

Table A2. Means of Table 3: Feelings at the end of project (Gender and feelings at the beginning as covariates)

		Team-skills guidance	No team-skills guidance	*Total*
Ignorant about topic studied (1) to Knowledgeable about topic studied (5)	Lesser LWT	3.7	4.1	*3.9*
	Greater LWT	3.5	3.7	*3.6*
	Total	*3.6*	*3.9*	
Lacking in confidence (1) to Confident (5)	Lesser LWT	3.5[c]	4.0[c]	*3.7*
	Greater LWT	3.4	3.2	*3.3*
	Total	*3.4*	*3.6*	
Less flexible in thought (1) to More flexible in thought (5)	Lesser LWT	3.8	4.0	*3.9*[a]
	Greater LWT	3.6	3.5	*3.6*[a]
	Total	*3.7*	*3.8*	
Dependent (1) to Independent (5)	Lesser LWT	3.5[d]	4.0[d]	*3.7*
	Greater LWT	3.6	3.4	*3.5*
	Total	*3.6*	*3.7*	
Incompetent (1) to Competent (5)	Lesser LWT	3.5	3.9	*3.7*[b]
	Greater LWT	3.5	3.4	*3.4*[b]
	Total	*3.5*	*3.6*	
Unenthusiastic (1) to Enthusiastic (5)	Lesser LWT	3.4	3.8	*3.6*
	Greater LWT	3.3	3.3	*3.3*
	Total	*3.4*	*3.5*	

Note: *Significant effects.*
[a] $p = .010$ main effect.
[b] $p = .009$ main effect.
[c] $p = .001$ *post hoc* (simple main effect).
[d] $p = .021$ *post hoc* (simple main effect).

Table A3. Means of Table 4: Perceptions and contribution (Gender as covariate)

		Team-skills guidance	No team-skills guidance	*Total*
Perceptions of how well team worked together: poorly (1) to very well (5)	Lesser LWT	3.6	4.0	*3.8*
	Greater LWT	3.6	3.9	*3.7*
	Total	*3.6*[a]	*3.9*[a]	
Individual contribution: hardly any effort (1) to very high level of effort (11)	Lesser LWT	7.2[b]	8.3[b]	*7.7*
	Greater LWT	7.5	7.3	*7.4*
	Total	*7.4*	*7.8*	
Peer contribution: hardly any effort (1) to very high level of effort (11)	Lesser LWT	7.3	8.1	*7.7*
	Greater LWT	7.2	7.3	*7.2*
	Total	*7.3*	*7.7*	

Note: *Significant effects.*
[a]$p = .023$ main effect.
[b]$p = .005$ *post hoc* (simple main effect).

Table A4. Means of Table 5: Outcome of team project (Gender as covariate)

		Team-skills guidance	No team-skills guidance	*Total*
Perceived outcome: very poorly (1) to very highly (5)	Lesser LWT	3.6	3.8	*3.7*[a]
	Greater LWT	3.4	3.5	*3.5*[a]
	Total	*3.5*	*3.7*	
Marks awarded to project	Lesser LWT	62.3	69.7	*66.0*
	Greater LWT	65.5	71.7	*68.6*
	Total	*63.9*[b]	*70.7*[b]	

Note: *Significant effects.*
[a]$p = .025$ main effect.
[b]$p = .000$ main effect.

Table A5. Means of Table 6: Attitudes to peer evaluation systems generally (Gender as covariate)

Strongly disagree (1) to strongly agree (5)		Team-skills guidance	No team-skills guidance	*Total*
Students should evaluate each other's contribution	Lesser LWT	3.6	3.8	*3.7*[a]
	Greater LWT	3.3	3.4	*3.4*[a]
	Total	*3.5*	*3.6*	
I am comfortable evaluating others' performance	Lesser LWT	3.6	3.9	*3.7*[b]
	Greater LWT	3.2	3.0	*3.1*[b]
	Total	*3.4*	*3.4*	
Peer evaluation is more hurtful than helpful	Lesser LWT	2.7	2.7	*2.7*
	Greater LWT	3.0	3.0	*3.0*
	Total	*2.8*	*2.8*	
Peer evaluation helps instructors see what's going on	Lesser LWT	3.6	3.8	*3.7*
	Greater LWT	3.6	3.2	*3.4*
	Total	*3.6*	*3.5*	
Peers can evaluate/assess fairly	Lesser LWT	3.4	3.3	*3.3*[c]
	Greater LWT	2.6	2.8	*2.7*[c]
	Total	*3.0*	*3.0*	
Automatic granting of the same grade to all is unfair	Lesser LWT	3.2	2.9	*3.0*
	Greater LWT	3.1	2.6	*2.9*
	Total	*3.2*	*2.7*	
I have yet to encounter an evaluation system fair to all	Lesser LWT	3.2	3.4	*3.3*
	Greater LWT	3.5	3.6	*3.5*
	Total	*3.3*	*3.5*	
Friendship and popularity distort peer evaluation	Lesser LWT	3.5	3.5	*3.5*
	Greater LWT	4.2[e]	3.4[e]	*3.8*
	Total	*3.9*	*3.5*	
Students may collude to award higher ratings to each other	Lesser LWT	3.6	3.2	*3.4*
	Greater LWT	3.7	3.2	*3.4*
	Total	*3.6*[d]	*3.2*[d]	
Peer evaluation accurately reflects my performance	Lesser LWT	3.3[f]	3.0	*3.1*
	Greater LWT	2.6[f]	2.9	*2.8*
	Total	*3.0*	*2.9*	

Note: *Significant effects.*
[a] $p = .040$ main effect.
[b] $p = .001$ main effect.
[c] $p = .000$ main effect.
[d] $p = .021$ main effect.
[e] $p = .009$ *post hoc* (simple main effect).
[f] $p = .001$ *post hoc* (simple main effect).

Table A6. Means of Table 7: Attitudes to peer evaluation systems used for the team project (Gender as covariate)

Strongly disagree (1) to strongly agree (5)		Team-skills guidance	No team-skills guidance	*Total*
It is an appropriate peer evaluation/assessment process	Lesser LWT	3.0	3.1	*3.0*
	Greater LWT	2.9	3.0	*3.0*
	Total	*3.0*	*3.0*	
It is a fair way to divide marks	Lesser LWT	3.3	3.2	*3.3*
	Greater LWT	2.9	3.2	*3.1*
	Total	*3.1*	*3.2*	
Grades will be a fair reflection of students' efforts	Lesser LWT	3.3	3.2	*3.2*
	Greater LWT	2.9	3.1	*3.0*
	Total	*3.1*	*3.1*	
This system of peer assessment will generate too much competition between team members	Lesser LWT	3.0	3.3	*3.2*
	Greater LWT	3.5	3.1	*3.3*
	Total	*3.3*	*3.2*	
Overall, how satisfied are you with the peer evaluation/ assessment process used?	Lesser LWT	3.1	3.4	*3.2*
	Greater LWT	3.0	3.5	*3.2*
	Total	*3.0*[a]	*3.4*[a]	

Note: *Significant effects.*
[a] $p = .002$ main effect.